

REMARKS

Reconsideration and withdrawal of the rejections set forth in the Final Office Action are respectfully requested in view of this amendment and the following reasons. By this amendment, claims 1, 12, 16, 28, 33 and 41 have been amended. Claims 1-4 and 6-41 are pending in this application.

Claims 1, 12, 16, 28 and 41 have been amended to recite that the valve is adapted either to "prohibit fluid flow" to the fluid supply line or to admit fluid flow. This changes the recitation, formerly found in claims 1, 12, 28 and 41 that the valve is adapted either to periodically prohibit fluid flow. The recitation is also added to claim 16, which did not describe periodically prohibiting fluid flow. Support for this terminology is found in the original application, as found in Published Application US 2005/0268969, at Paragraph [0013] (prohibit flow).

Claims 1, 16 and 28 have been amended to recite that the valve "has an open position admitting fluid flow only at a flow rate above the minimum measuring flow threshold, and a closed position substantially restricting fluid flow at flow rates below the measuring threshold". Support is found throughout the specification, *inter alia*, at Paragraphs [0010, 0013, 0014], and Claim 8.

Claim 33 (which had been deemed allowable over the art) was rewritten into independent form.

It is respectfully submitted that these amendments introduce no new matter within the meaning of 35 U.S.C. §132.

In the outstanding Office Action, the Examiner rejected claims 1-4, 6-15 and 28-41 under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. Claims 1-4 and 6-29 were rejected under 35 U.S.C. §102(b) as anticipated by WO99/28722 to Jakobsson (hereinafter "*Jakobsson*"). Claims 30-32 and 34-40 were rejected under 35 U.S.C. §103(a) as unpatentable over *Jakobsson*, taken in view of Lam, et al. US 5,921,276 (hereinafter "*Lam*"). Claim 41 was

rejected under 35 U.S.C. §103(a) as unpatentable over *Jakobsson*. Applicants request reconsideration and timely withdrawal of the pending rejections for the reasons discussed below.

Rejections Under 35 U.S.C. §112

The Examiner rejected claims 1-4, 6-15 and 28-41 under 35 U.S.C. §112, first paragraph, as failing to meet the written description requirement. Specifically, the reference to "periodically prohibit fluid flow" was deemed to lack support, in that "pulsating" flow does not support "periodic" flow.

Response

The original specification describes, the "flow responsive valve imparting the system with a flow pattern having a pulsating character so as to *substantially prohibit flow* at a flow rate below the minimum measuring threshold, and resume flow of only measurable quantities of fluid." (Published Application US 2005/0268969, at Paragraph [0011].) Accordingly, it is submitted that the recitation of "prohibit fluid flow" is clearly and adequately supported.

It is therefore respectfully submitted that the rejection under 35 U.S.C. 112 should be withdrawn.

Rejections under 35 USC §102

Claims 1-10 were rejected under 35 USC 102(b) as anticipated by *Jakobsson*. *Jakobsson* is cited as disclosing a fluid metering system with an open position for high flow and a pulsating position to allegedly facilitate measurement of low flows.

Response

This rejection is traversed as follows. For a reference to anticipate an invention, all of the elements of that invention must be present in the reference. The test for anticipation under section 102 is whether each and every element as set forth in the claim is found, either expressly or inherently, in a single prior art reference. *Verdegaal Bros. v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987); MPEP §2131. The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP §2131.

The claims now describe:

"... said valve is adapted either to prohibit fluid flow ... until a pressure differential over the valve ports is being built-up due to consumed flow rates, which occur below the measurable flow threshold or to admit fluid flow ... until the pressure differential diminishes below a predetermined threshold ..., and wherein said valve has an open position admitting fluid flow only at a flow rate above the minimum measuring flow threshold, and a closed position substantially restricting fluid flow at flow rates below the measuring threshold." (Claim 1; claims 12, 28 and 41 similar, and claim 16 similar but not describing flow measurement.)

The cited art fails to show or suggest the use of a valve having an open position for admitting flow only at a flow rate above a minimum measuring flow rate of a flow meter which it is used with. Thus in Applicants' disclosure, it is clear that the predetermined threshold for the valve to open is to admit fluid flow only at a flow rate sufficient for the flow meter to measure it.

In contrast, in *Jakobsson* the valve opens at a predetermined threshold to admit fluid flow at a flow rate insufficient for the flow meter to measure such flow and then boosts that flow rate via use of an accumulator (such accumulator being described as a "pulsator 19") to be at a rate measurable by the flow meter. As described by *Jakobsson*, "... when the flow meter would not normally react at all, the flow cannot pass through the meter 17 when the valve is closed (Fig. 6a) without the flow being forced to pass in a shunt piping 18 to the pulsator 19." (*Jakobsson* at page 5, lines 19-22.) This uses the shunt and fluid displacement within the shunt to address

minimum flow measurement. When the diaphragm (element 13 of *Jakobsson*, Figs. 6A and 6B) or bladder (element 13 of *Jakobsson*, Figs. 7-8) compresses, fluid in the shunt is used to increase flow through the meter (element 17 of *Jakobsson*).

Thus *Jakobsson* uses both a shunt line (element 18 of *Jakobsson*) and the diaphragm, which is necessarily a different function than that described in claims 1, 12, 16, 28, 33 and 41.

Furthermore, with respect to claim 1, this specifically contradicts Applicants' subject matter in which, "portions of the supply line and devices fitted thereon, downstream of said pressure controlled valve, act as an in line fluid accumulator." Instead, *Jakobsson* clearly uses a portion of the shunt line and the diaphragm for this purpose.

As described in our prior response, *Jakobsson* relies on a shunt piping (18) receiving a parallel flow of water from the supply line in order to determine the threshold for opening and closing the valve. In other words, one is forced to have an additional pipe comprising a separate valve system for monitoring any leakage taking place downstream.

Contrary to *Jakobsson*'s valve, present application teaches a valve that uses accessories such as the piping itself, which are located downstream of the pressure control valve in order to determine the threshold. This is achieved, *inter alia*, by the elastic properties of the piping downstream of the valve, wherein change in the diameter of the piping eliminates the need for the shunt piping (element 18) as taught by *Jakobsson*.

Thus, *Jakobsson* fails to teach or suggest the valve of claims 1, 12, 16, and 28. Because *Jakobsson* does not teach or suggest every claimed feature, *Jakobsson* does not anticipate claims 1, 12, 16, and 28. It is therefore respectfully submitted that the rejection under 35 U.S.C. §102 should be withdrawn.

Rejections Under 35 U.S.C. §103

The Examiner rejected claims 30-32 and 34-40 under 35 U.S.C. §103(a) as unpatentable over *Jakobsson*, taken in view of *Lam*". Claim 41 was rejected under 35 U.S.C. §103(a) as

unpatentable over *Jakobsson*. These rejections, as applied to the amended claims, are respectfully traversed.

Response

This rejection is traversed as follows. To establish a *prima facie* case of obviousness, the Examiner must establish: (1) some suggestion or motivation to modify the references exists; (2) a reasonable expectation of success; and (3) the prior art references teach or suggest all of the claim limitations. *Amgen, Inc. v. Chugai Pharm. Co.*, 18 USPQ2d 1016, 1023 (Fed. Cir. 1991); *In re Fine*, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988); *In re Wilson*, 165 USPQ 494, 496 (CCPA 1970).

A *prima facie* case of obviousness must also include a showing of the reasons why it would be obvious to modify the references to produce the present invention. *See Dystar Textilfarben GMBH v. C. H. Patrick*, 464 F.3d 1356 (Fed. Cir. 2006). The Examiner bears the initial burden to provide some convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings. *Id.* at 1366.

As indicated above, the *Jakobsson* reference describes the use of a shunt line and diaphragm to address minimum flow issues. Claims 30-32 and 34-40 depend from claim 28. *Lam* fails to cure the deficiencies of *Jakobsson* noted above with regard to claims 1, 12, 16, and 28. *Lam* teaches a valve that is intended for high flow rates, and as such is completely irrelevant to the control valve disclosed in the present subject matter, which is adapted to prevent leakage. Thus, *Lam* fails to teach or suggest the valve as claimed. Hence, claims 30-32 and 34-40 are allowable at least because they depend from an allowable claim 28.

With respect to Claim 41, the use of an impeller as the fluid flowmeter fails to suggest the implementation of Applicants features relating to the check valve opening at a predetermined threshold in excess of the minimum measured flow rate.

Accordingly, Applicants respectfully request withdrawal of the 35 U.S.C. §103(a) rejection of claims 30-32 and 34-41. It is therefore respectfully submitted that the rejection under 35 U.S.C. 103(a) should be withdrawn.

Allowed Claim

The Examiner indicated that claim 33 is allowable over the prior art of record. Applicants appreciate this determination of allowability.

CONCLUSION

Applicants believe that a full and complete response has been made to the pending Office Action and respectfully submits that all of the stated grounds for rejection have been overcome or rendered moot. Accordingly, Applicants respectfully submit that all pending claims are allowable and that the application is in condition for allowance.

Should the Examiner feel that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicants' undersigned representative at the number below to expedite prosecution.

Respectfully submitted,
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